

# Work Order ID 81800

\*81800\*

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March-19-12 1:33:37 PM

Item ID: D3414-041 Accept \*N9000040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Lug Assembly  
 Start Date: 19/03/2012 Start Qty: 8.00 \*8\* Cust Item ID:  
 Required Date: 18/05/2012 Req'd Qty: 8.00 \*8\* Customer:

## Reference:

Approvals: Process Plan: MLJ Date: 12/03/19 Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3414	Rev C

100		0.00				8	0		Jm
-----	--	------	--	--	--	---	---	--	----

\*100\*  
 Waterjet  
 FLOW CNC Waterjet  
 304, 100  
 Memo  
 1-Cut as per Dwg D3414-1  
 Dwg Rev: C  
 Prog Rev: C  
 2-Deburr if necessary

110	QC2- Inspect parts off machine FAI/FAIB	0.00				8	0		Jm
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\*110\*  
 QC  
 Quality Control  
 Memo

12-5-17

12-5-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 81800

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**\*81800\***

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Item ID: D3414-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Lug Assembly

Start Date: 19/03/2012 Start Qty: 8.00

**\*8\***

Cust Item ID:

Required Date: 18/05/2012 Req'd Qty: 8.00

**\*8\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							
<b>*120*</b>									
QC	Memo	0.00							
Quality Control									
130		0.00							
<b>*130*</b>									
Brake NC	Memo	0.00							
Brake NC	1-Deburr 2-Form using DT8254 as per Dwg D3414								
140		0.00							
<b>*140*</b>									
Large Fab	Memo	0.00							
Large Fab	1- Weld using location Jig DT9625 as per Dwg D3414 A/R S.S. welding rod Batch: <u>20120013</u>								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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March-19-12 1:33:37 PM

**\*81800\***

Page 3

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 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
<b>*150*</b>									
QC	Memo	0.00							
Quality Control									
160	QC5- Inspect part completeness to step on W/O	0.00							
<b>*160*</b>									
QC	Memo	0.00							
Quality Control									
175	Spray Painting per QSI005 4.2	0.00							
<b>*175*</b>									
SprayPaint	Memo	0.00							
Spray Painting	PRIME B <b>117319</b> DELFLEET BLUE B <b>121149</b> CLEAR DELFLEET B <b>121703</b>								

*CP 12.05.31* *8x*

*8.7/05/31* *(75)*

*AB* *12-7-15* *(2)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 81800



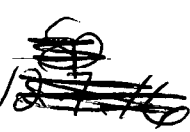
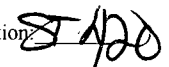

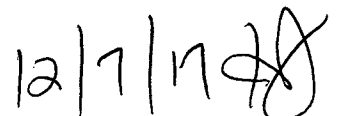
March-19-12 1:33:37 PM

**\*81800\***

Page 4

Item ID: D3414-041 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Lug Assembly  
 Start Date: 19/03/2012 Start Qty: 8.00 **\*8\*** Cust Item ID:  
 Required Date: 18/05/2012 Req'd Qty: 8.00 **\*8\*** Customer:  
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start **\*NR1\***  
 QC: Date: SPC (Y/N): Date: Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
185 <b>*185*</b> QC Quality Control	QC14- Inspect Spray Paint  Memo	0.00  0.00		12/09/12					
190 <b>*190*</b> Packaging Packaging	Identify as per dwg & Stock Location  Memo	0.00  0.00				8x			 12-7-12
200 <b>*200*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							12/7/12  MF 12-07-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

March-19-12 1:33:41 PM

Page 1

Work Order ID: 81800

\*81800\*

Parent Item: D3414-041

\*D3414-041\*

Parent Item Name: Lug Assembly

Start Date: 19/03/2012

Required Date: 18/05/2012

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP A05.09.13New issueKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S12GA		Purchased	No			100	sf	119.3300	0.155	1.24			

\*M304S12GA\*

304/316 0.100" Sheet

\*\*

Location	Loc Qty	Loc Code
MAT019	119.33	
113062	105.1	
113077	14.23	

D3414-3

Manufactured No

140

Each

0.0000

1

8

\*D3414-3\*

Lug

\*\*

B83320. x8

113062

Jm  
12-5-17

EL 12-5-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order:	81800
Description: Lug Bracket		Part Number:	D3414-1
Inspection Dwg: D3414 Rev: C		Page 1 of 1	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.313	+0.006/-0.001	0.313	✓		✓	MB-02
1.19	+/-0.030	1.185	✓		✓	MB-02
1.00	+/-0.030	1.011	✓		✓	MB-02
3.38	+/-0.030	3.379	✓		✓	MB-02
5.350	+/-0.010	5.358	✓		✓	MB-02
6.23	+/-0.030	6.235	✓		✓	MB-02
2.500	+/-0.010	2.503	✓		✓	MB-02
0.37	+/-0.030	0.372	✓		✓	MB-02
0.100	+/-0.010	0.103	✓		✓	MB-02

Measured by: Jm	Audited by: J	Prototype Approval:	N/A
Date: 12-5-17	Date: 12/5/17	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.02.28	New Issue P/O D3414-041	KJ/DD	
B	09.05.27	Dimensions updated per Dwg Rev B	KJ	
C	09.10.16	Dwg Rev updated to Rev C	KJ	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

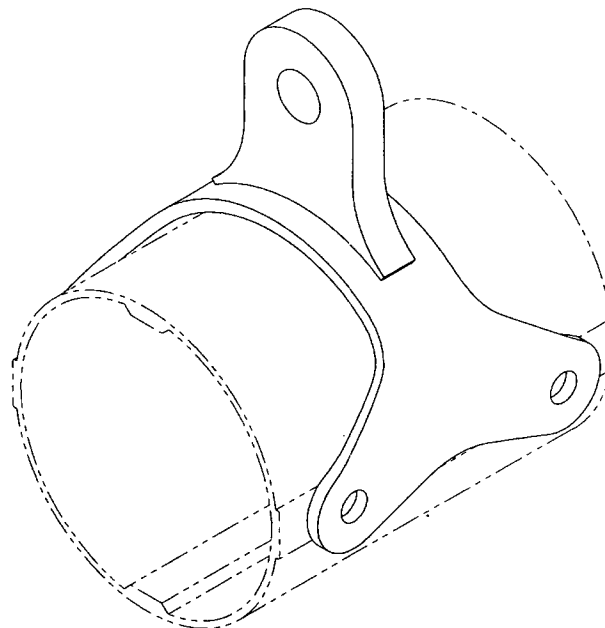
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM No.	QTY. -041	PART NUMBER	DESCRIPTION
1	X	D3414-041	LUG ASSEMBLY
2	1	D3414-1	LUG BRACKET
3	1	D3414-3	LUG



**D3414-041 LUG ASSEMBLY**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 81800 MLJ  
12/03/19

**RELEASED**  
8/10/16 MP

C	BREAK SHARP EDGES FOR -3 NOW 0.030-0.060 WAS 0.010-0.030 (ZN A7-3)	CP	09.06.17
B	DRAWING REDRAWN IN SOLIDWORKS WITH CURRENT STANDARDS AND TRANSFERRED TO "B" SIZE BORDER. FLAT PATTERN FOR -1 INCREASED IN LENGTH TO PREVENT FOULING AT INSTL (SEE PAR 198). FLAT SPOTS REMOVED FROM -1 (PART NOW "U" SHAPED) FOR EASE OF MANUFACTURE. B7-3 ADDED TOLERANCE TO 3.230 DIM. C2-3 1.12 DIM WAS 1.20.	AJS	08.09.23
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	CP	DRAWING NO.	REV. C
MFG. APPR.	CP	D3414	SHEET 1 OF 3
APPROVED	CP	TITLE	SCALE
DE APPR.	CP	LUG ASSEMBLY	NTS
DATE	09.06.17	<small>COPYRIGHT © 2015 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3414-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.52 lbs

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

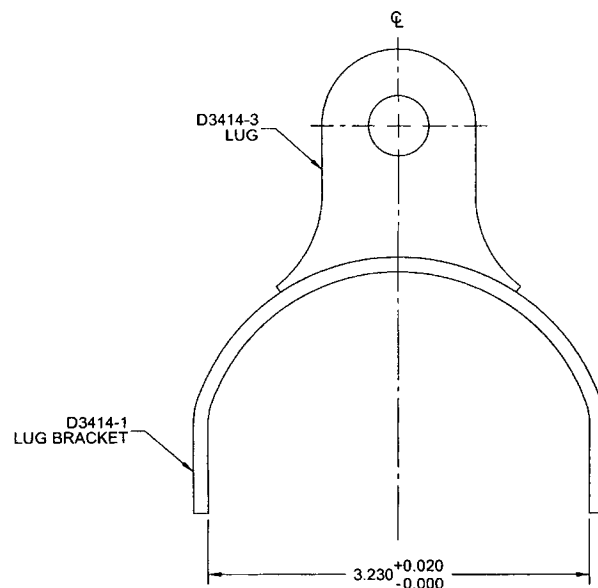
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

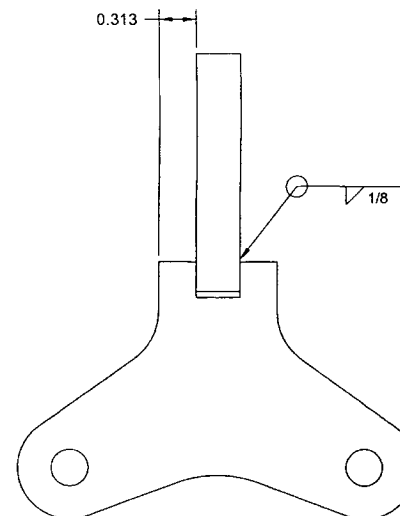
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

81800



**D3414-041 LUG ASSEMBLY**



**RELEASED**  
04/10/17

DESIGN	CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D3414</b>	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		<b>LUG ASSEMBLY</b>	NTS
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W/O:		WORK ORDER CHANGES					
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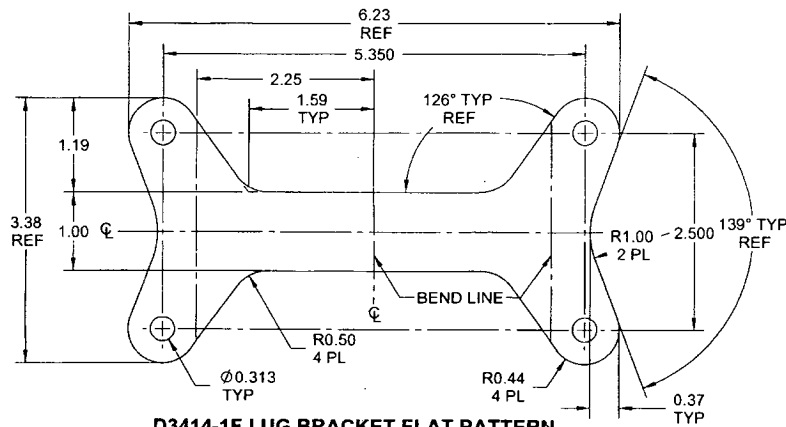
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

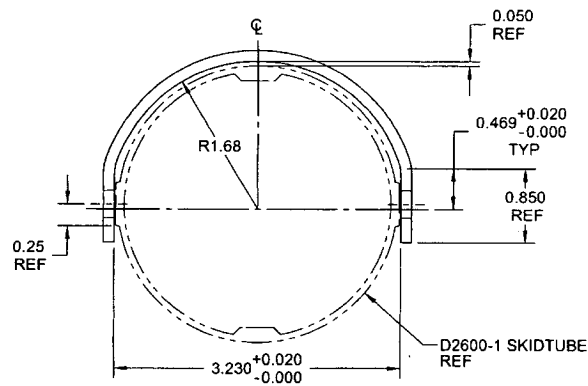
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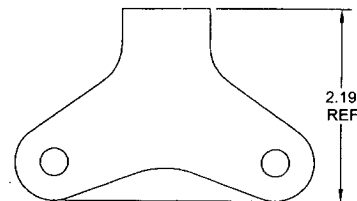




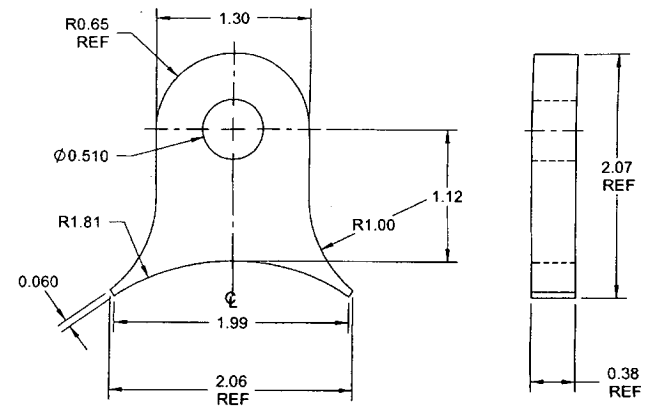
**D3414-1F LUG BRACKET FLAT PATTERN**



**D3414-1 LUG BRACKET**



**SIDE VIEW FOR REF ONLY**



**D3414-3 LUG**

**NOTES:**

1) MATERIAL: -1: AISI 304/316 STAINLESS STEEL SHEET, 12 GAUGE (0.100 THICK)  
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524  
REF. DART SPEC. M304S12GA

-3: AISI 304/316 STAINLESS STEEL PLATE  
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524  
REF. DART SPEC. M304S

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: -1: 0.010 TO 0.020 MAX

-3: 0.030 TO 0.060 MAX



6) IDENTIFICATION: N/A

7) WEIGHT: N/A

**RELEASED**

DESIGN	QP	<b>DART AEROSPACE LTD</b>	
DRAWN	CP	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3414	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		LUG ASSEMBLY	NTS
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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